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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,861	09/25/2003	Michael Lee	013590-133022	5373
25943 7590 07/13/2007 SCHWABE, WILLIAMSON & WYATT, P.C. PACWEST CENTER, SUITE 1900 1211 SW FIFTH AVENUE PORTLAND, OR 97204			EXAMINER LIEW, ALEX KOK SOON	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/671,861	Applicant(s) LEE ET AL.	
	Examiner Alex Liew	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-16 is/are rejected.
- 7) ☒ Claim(s) 5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The amendment filed on May 11, 2007 is entered and made of record.

Response to Applicant's Arguments

On page 8, the applicant states: "Brecher, on the other hand, does not teach, suggest, or imply a recipe created from images of the defects ... There is nothing to teach, suggest, or imply that the determining of the occurrence of defects and defect value is done with the reference to the computer driven recipe as recited in claim 1." The examiner agrees with the applicant. In the examiner's new search Lee (US pat no 6,148,099) discloses the determining of the occurrence of defects and defect value is done with the reference to the computer driven recipe, wherein the recipe is created from images of defects (see figure 2 – Training phase is where the images are use to train the type and size of the defects, discussed in column 4 lines 8 – 15, and Application phase is where the input images are being examined for defects which resembles defects shown in the images in the Training phase, discussed on column 4 lines 18 – 28). One skilled in the art would include training step because to teach the computer the appropriate size and shape of the defect, so classification defect errors will be minimize.

DETAILED ACTION

Claim Objections

Claims 5 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claim 5, the examiner's search does not show any applicable prior art and / or suggestions disclosing the capability of examining the detectors and classifiers of the various recipes, determining similarities of wood type defects of such various recipes as compared to a decorative wood panel type for which a recipe is not created and selecting desired ones of said detectors and classifiers for custom creating a new recipe for said decorative wood type in combination with claims 1, 3 and 4.

With regards to claim 8, the examiner's search does not show any applicable prior art and / or suggestions disclosing each panel includes decorative wood laminates at opposed sides of said panels, and both sides being photographically scanned and thereby producing *dual images* for each panel, said *assignment of grade levels applicable to the two sides independently* in combination with claim 6.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 6, 7 and 13 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brecher (US pat no 5,544,256) in view of Frigon (US pub no 2002/0085093) and Lee ('099).

With regards to claim 1, Brecher discloses an inspection system for automatically detecting and classifying manufacturing defects in lumber and using photographic image for detecting and classifying said defects (see col. 23 lines 13 – 33), which system comprises

creating a computer driven recipe utilizing detectors and classifiers (see fig 1 – 5 and 1 – 9) and

photographically scanning said lumber to be inspected following assembly (see fig 1 – 15) and determining therefrom the occurrence of defects and a defect value based on the size and shape of the defect (see col. 11 lines 5 – 11 – determines the shape of the cluster defect, the defect value is the circularity of the defect cluster and see fig 7 16 – the shape and size of each defect are obtained).

The system of Brecher are made for detecting defects in several application including lumber defects (see col. 23 lines 13 – 33), where the user specified the type of defects like the size, shape or texture of the object, so the detectors and classifiers are pre-programmed to perform defect detection on lumber. But Brecher does not disclose assigning a grade of acceptability. Brecher did mention the importance of quality in products (see col. 1 lines 14 – 18) ensuring minimum defects. Frigon discloses

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assigning a grade of acceptability to such inspected panels based upon the defect value indicated (see paragraph 39 lines 16 – 20 – a defect on a line will downgrade a lumber, grading shown in fig 7A – 7E). One skill in the art would include step of assigning grade to a lumber because to determine the correct selling price of the lumber to prevent anyone from paying too much or too little and / or if the lumber has a defects that are in the range which it cannot be sell the, the system is able reject the lumber or wood, so it will not be sold.

Brecher and Frigon do not disclose creating a computer driven recipe utilizing detectors and classifiers from image of defect of varying types and degrees exhibited sample defects and determining of the occurrence of defects and defect value is done with the reference to the computer driven recipe, wherein the recipe is created from images of defects. Lee discloses creating a computer driven recipe utilizing detectors and classifiers from image of defect of varying types and degrees exhibited sample defects (see figure 2 – the training phase teaches the computer the types, shape and size, of defects) and determining of the occurrence of defects and defect value is done with the reference to the computer driven recipe, wherein the recipe is created from images of defects (see figure 2 – Training phase is where the images are use to train the type and size of the defects, discussed in column 4 lines 8 – 15, and Application phase is where the input images are being examined for defects which resembles defects shown in the images in the Training phase, discussed on column 4 lines 18 – 28). One skilled in the art would include training step because to teach the computer the appropriate size and shape of the defect, so classification defect errors will be minimize.

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Brecher, Frigon and Lee disclose the claimed invention of claim 1.

With regards to claim 2, in an extension of claim 1, Frigon also discloses selectively diverting said panels into segregated receiving stations based on a common grade of acceptability (see paragraph 41 lines 1 – 8 – the curvature effects the length of the lumber, which affect the grade as well, paragraph 28).

With regards to claim 6, see the rationale and rejection for claim 1. In addition, Brecher also teach a plurality of grade levels shown in figure 7A to 7E.

With regards to claim 7, an extension to claim 6, Frigon also discloses having grade level from poorest to best (see fig 7 – grade from 1 to 4, paragraph 27).

With regards to claim 13, see the rationale and rejection for claim 1.

With regards to claim 14, an extension to the arguments to rejection for claim 1, Lee discloses a detector and a classifier for each of the various types of exhibited defects (see figure 2 – training phase identifies the type of defects and application phase identifies the type of defects).

With regards to claim 15, Brecher discloses a first detector configured to identify a defect of a first type base on the detection recipe (see figure 4 – the defect recipe is

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using the reference image and input image to create a defect image), Frigon discloses a first classifier configured to provide a grade for the defect identified by the first detector based on classification recipe (see paragraph 39 lines 16 – 20 – a defect on a line will downgrade a lumber, grading shown in fig 7A – 7E and see figure 2 showing two detectors).

With regards to claim 16, an extension to arguments to rejection for claim 1, Frigon discloses grading station configured to assign grade of acceptable or rejected based on detection process and classification process (see paragraph 32), but does not include rework and shop. It is well known in the art of image inspection of electronic components to detect defects in the electronic components and have them corrected in the assembly lines (MPEP 2144.03). One skilled in art would include step of rework because to eliminate any cracks or rotten parts on the wood panel, to increase the quality of the wood, which result in increase of the profit for the wood providing company.

3. Claims 3, 4 and 9 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brecher ('256) in view of Frigon ('093) and Lee ('099) as applied to claim 1 further in view of Perez (US pat no 6,336,086).

With regards to claim 3, Brecher and Frigon disclose all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but

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fails to disclose creating multiple sets of computer driven recipes and providing a controller for instructing the system as to which recipe to process. Perez discloses steps of creating sets of computer driven recipes corresponding to multiple wafer machine (see fig 1 – under process type) and providing a controller for instructing the system as to which wafer machine is to be processed and accordingly the recipes to be applied to that wafer system type (see fig 2 – 210). Although, Perez does not disclose a system which perform processing on wood panel, Perez does teach selecting an algorithm from a plurality of algorithms which depends on the type of wafer system; the process of selecting algorithm is the same as what is disclosed in the current invention. The combination of Brecher, Frigon and Perez disclose what is claimed in the current invention. One skill in the art would select from a plurality of algorithms to perform processing on different types of wood panels because each wood panel needs its own processing needs, which corrects defects to improve the quality of the wood panel.

With regards to claim 4, an extension to claim 3, Perez also discloses identification code is in the form of a barcode (see fig 1 – Positrak Lot Step Plot and col. 3 lines 21 – 33).

With regards to claim 9, see the rationale and rejection for claim 3.

With regards to claims 10 – 12, see the rationale and rejection for claims 1 and 3.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

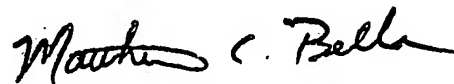
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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